

L18 ANSWER 45 OF 53 CAPLUS COPYRIGHT 2003 ACS

AB ¹³C NMR spectra of uridine-4-¹³C in *Salmonella typhimurium* 5 S RNA at 37.degree. and 75.degree. are reported. The presence of 8 well-resolved lines at the lower temp. is attributed to the effect of secondary structure upon the uridine resonances and this line structure is suggested as a means of studying such secondary interactions in this species of rRNA. The amt. of rigid secondary structure in the mol. is estd. to be >75%.

AN 1978:84750 CAPLUS

DN 88:84750

TI Carbon magnetic resonance spectroscopy on carbon-13
-labeled uracil in 5S ribonucleic acid

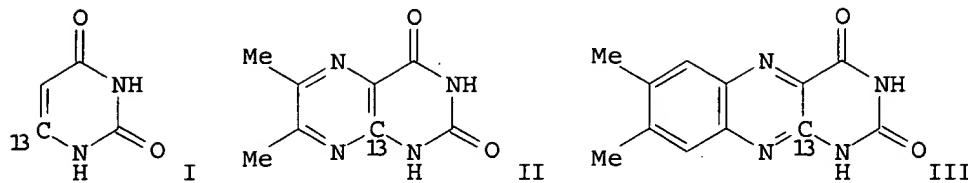
AU Hamill, W. David, Jr.; Grant, David M.; Cooper, R. Beth; Harmon, Shirley A.

CS Dep. Chem., Univ. Utah, Salt Lake City, UT, USA

SO Journal of the American Chemical Society (1978), 100(2), 633-5
CODEN: JACSAT; ISSN: 0002-7863

DT Journal

LA English



AB The title compds. (I-III, resp.) were prep'd. in 2, 4, and 5 steps, resp., from the key intermediate, $\text{H}_2\text{NCONHCOCH}_2\text{C}^{13}\text{CN}$, prep'd. by condensation of K^{13}CN with $\text{ClCH}_2\text{CO}_2\text{H}$ in the presence of Na_2CO_3 at 40-50.degree. followed by reaction with urea.

AN 1978:443325 CAPLUS

DN 89:43325

TI Synthesis of carbon-13 labeled uracil, 6,7-dimethylllumazine, and lumichrome, via a common intermediate: cyanoacetylurea

AU Triplett, J. W.; Mack, S. W.; Smith, S. L.; Digenis, G. A.

CS Coll. Pharm., Univ. Kentucky, Lexington, KY, USA

SO Journal of Labelled Compounds and Radiopharmaceuticals (1978), 14(1), 35-41

CODEN: JLCRD4; ISSN: 0362-4803

DT Journal

LA English

L18 ANSWER 36 OF 53 CAPLUS COPYRIGHT 2003 ACS

AB Unfractionated tRNA from a uracil-requiring auxotroph of *Salmonella typhimurium* grown in the presence of 90% C-4 13C-labeled uracil is studied by 13C NMR spectroscopy. 13C NMR chem.-shift spectra were obtained at 23.5 kG at 5 temps. over a range of 23-82.degree. and at 84.6 kG at 37.degree.. Spin-lattice relaxation rates were measured at 23.5 kG at 4 temps. over a range of 23-60.degree. and an approx. relaxation rate was measured at 84.6 kG at 37.degree.. Nuclear Overhauser enhancements (NOEs) were measured at 23.5 kG at 37.degree. and at 60.degree.. The spectra show 2 distinct, narrow lines, one assignable to 4-thiouridine and the other to dihydrouridine. The uridine lines along with lines belonging to ribothymidine and pseudouridine form a band of partially resolved lines which result from the chem.-shift nonequivalence of the uridines, pseudouridines, and ribothymidines caused by the secondary and tertiary structure of the mol. The relaxation rate data are analyzed in terms of H+-dipolar, 14N-dipolar, and chem. shift anisotropic relaxation mechanisms. The rotational correlation time is computed to be 3 .times. 10-8 s, which is in agreement with previously reported measurements. Changes in the relaxation rates and the NOEs as a function of temp. are discussed in terms of the unfolding of the mol. and in terms of motional freedom of the D loop compared to the rest of the mol.

AN 1980:509178 CAPLUS

DN 93:109178

TI Nuclear magnetic resonance relaxation studies of carbon-13 labeled uracil in transfer ribonucleic acid

AU Hamill, W. David, Jr.; Horton, W. James; Grant, David M.

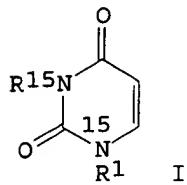
CS Dep. Chem., Univ. Utah, Salt Lake City, UT, 84112, USA

SO Journal of the American Chemical Society (1980), 102(17), 5454-8

CODEN: JACSAT; ISSN: 0002-7863

DT Journal

LA English



AB Cyclocondensation of urea-15N2 with CH.tplbond.CCO2H in polyphosphoric acid at 85.degree. for 4 h gave 77.3% uracil-1,3-15N2 (I; R = R1 = H) (II). Random methylation of II with (CD3)2SO4 gave, after ion-exchange purifn., 17.2% I (R = H, R1 = CD3), 18.4% I (R = CD3, R1 = H) and 10.3% I (R = R1 = CD3). The 15N and 1H NMR spectra of the prepd. compds. are reported.

AN 1980:514440 CAPLUS

DN 93:114440

TI Synthesis of **nitrogen-15** labeled **uracil** and its 1-deuteriomethyl, 3-deuteriomethyl, and 1,3-deuteriomethyl derivatives

AU Lipnick, Robert L.; Fissekis, John D.

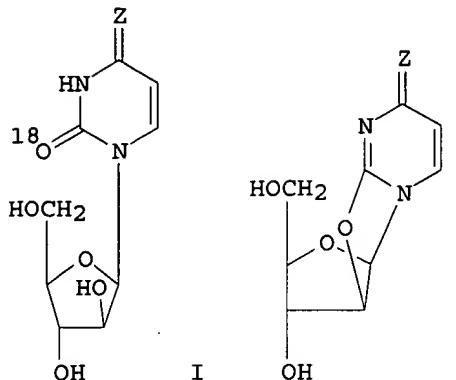
CS Mem. Sloan-Kettering Cancer Cent., New York, NY, 10021, USA

SO Journal of Labelled Compounds and Radiopharmaceuticals (1980), 17(2), 247-54

CODEN: JLCRD4; ISSN: 0362-4803

DT Journal

LA English



AB The title compds. (I; Z = NH, O, resp.) were prep'd. by oxidative ring cleavage of the nucleosides II (Z = NH.HCl, O, resp.) with Na¹⁸OH/H₂¹⁸O. The site and level of incorporation of the label was established by mass spectrometry.

AN 1983:107660 CAPLUS

DN 98:107660

TI Oxygen-18-labeled nucleosides. 3. Preparation and mass spectrometric evaluation of ¹⁸O₂-labeled 1-(.beta.-D-arabinofuranosyl)cytosine and -uracil

AU Schubert, Ernst M.; Schram, Karl H.

CS Dep. Pharm. Sci., Univ. Arizona, Tucson, AZ, 85721, USA

SO Journal of Labelled Compounds and Radiopharmaceuticals (1982), 19(8), 929-35

CODEN: JLCRD4; ISSN: 0362-4803

DT Journal

LA English

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AB Gas chromatog. and mass spectrometric methods for the measurement of the flux through the de novo pyrimidine biosynthetic pathway by quantitating the incorporation of [13C]bicarbonate and 13CO₂ into the uracil nucleotide pool in L1210 tumors are reported. Simultaneous measurements of the incorporation of [13C]bicarbonate and the more commonly used [14C]bicarbonate into uridine of L1210 cells *in vitro* showed that the 2 methods were comparable. A modification of the method was applied to *in vivo* studies in which the incorporation of 13CO₂ into the uracil nucleotide pool of L1210 tumors in mice was quantitated. The measurements were used to det. changes in the flux through the *de novo* pyrimidine pathway in animals pretreated with known inhibitors of the pathway. A comparison of control animals with those pretreated with 6-azauridine, acivicin, and pyrazofurin resulted in mean percentage inhibitions of 87, 95, and 94%, resp. The title method allows investigation of the resp. contributions of salvage and *de novo* synthesis in the formation of pyrimidines *in vivo* and the effects of enzyme inhibitors of the *de novo* pathway.

AN 1983:518788 CAPLUS

DN 99:118788

TI A carbon-13 tracer method for quantitating *de novo* pyrimidine biosynthesis *in vitro* and *in vivo*

AU Strong, John M.; Anderson, Lawrence W.; Monks, Anne; Chisena, Christine A.; Cysyk, Richard L.

CS Lab. Chem. Pharmacol., Natl. Cancer Inst., Bethesda, MD, 20205, USA

SO Analytical Biochemistry (1983), 132(2), 243-53

CODEN: ANBCA2; ISSN: 0003-2697

DT Journal

LA English

L18 ANSWER 18 OF 53 CAPLUS COPYRIGHT 2003 ACS

AB On the basis of a valence force field, the frequencies of the vibrational modes of uracil and its 180 derivs. substituted in the 2-, the 4- and the 2,4-positions, were calcd. The frequencies were compared with those available from the UV resonance Raman spectra. The resonance Raman bands obsd. exptl. in the spectra of the uracil 2-, 4- and 2,4-dithio derivs. were calcd. with an equiv. extended force field, and a tentative assignment of these lines is proposed.

AN 1986:487745 CAPLUS

DN 105:87745

TI Interpretation of the vibrational modes of uracil and its oxygen-18-substituted and thio derivatives studied by resonance Raman spectroscopy

AU Ghomi, M.; Letellier, R.; Taillandier, E.; Chinsky, L.; Laigle, A.; Turpin, P. Y.

CS Lab. Spectrosc. Biomol., Bobigny, 93000, Fr.

SO Journal of Raman Spectroscopy (1986), 17(3), 249-55

CODEN: JRSPAF; ISSN: 0377-0486

DT Journal

LA English

18 ANSWER 3 OF 53 CAPLUS COPYRIGHT 2003 ACS

AB A mixt. of ¹³C-carbon monoxide, nitrogen, and water was irradiated with high energy protons. ¹³C-labeled uracil was identified in the product by GC/MS, resulting in confirmed abiotic formation of uracil, one of the RNA bases.

AN 1997:626963 CAPLUS

DN 127:247955

TI Abiotic synthesis of uracil from carbon monoxide, nitrogen and water by proton irradiation

AU Kobayashi, Kensei; Tsuji, Toru

CS Department Physical Chemistry, Yokohama National University, Yokohama, 240, Japan

SO Chemistry Letters (1997), (9), 903-904

CODEN: CMLTAG; ISSN: 0366-7022

PB Chemical Society of Japan

DT Journal

LA English

L15 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS

AB The incorporation of C-4 C-13-labeled uracil

into tRNA of a mutant strain of *Salmonella typhimurium* and its C NMR spectrum at 37.degree. and 82.degree. are reported. In addn. to the major line belonging to labeled uridine in tRNA, 2 smaller lines, 1 assigned to dihydrouridine and the other tentatively assigned to pseudouridine, were obsd. Changes in the spectra going from 37.degree. to 82.degree. are discussed in terms of known models for tRNA.

AN 1976:131665 CAPLUS

DN 84:131665

TI Magnetic resonance spectroscopy on carbon-13 labeled uracil in transfer ribonucleic acid

AU Hamiill, W. David, Jr.; Grant, David M.; Horton, W. James; Lundquist, Ronald; Dickman, Sherman

CS Dep. Chem., Univ. Utah, Salt Lake City, UT, USA

SO Journal of the American Chemical Society (1976), 98(5), 1276-8

CODEN: JACSAT; ISSN: 0002-7863

DT Journal

LA English

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6 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2003 ACS

AB Chem. shift assignments are made for the C atoms of the uracil
-bisulfite adduct by specific labeling with D and C-13
. The signals of the analogous adducts from 5-chlorouracil and
5-fluorouracil are assigned.

AN 1977:536255 CAPLUS

DN 87:136255

TI Carbon-13 chemical shift assignments for the bisulfite adducts of uracil,
5-deuterouracil, 5-fluorouracil and 5-chlorouracil

AU Triplett, J. W.; Digenis, G. A.; Layton, W. J.; Smith, S. L.

CS Coll. Pharm., Univ. Kentucky, Lexington, KY, USA

SO Spectroscopy Letters (1977), 10(3), 141-7

CODEN: SPLEBX; ISSN: 0038-7010

DT Journal

LA English

L16 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2003 ACS

AB The incorporation of C-4 C-13-labeled uracil
into tRNA of a mutant strain of *Salmonella typhimurium* and its C NMR
spectrum at 37.degree. and 82.degree. are reported. In addn. to the major
line belonging to labeled uridine in tRNA, 2 smaller lines, 1 assigned to
dihydrouridine and the other tentatively assigned to pseudouridine, were
obsd. Changes in the spectra going from 37.degree. to 82.degree. are
discussed in terms of known models for tRNA.

AN 1976:131665 CAPLUS

DN 84:131665

TI Magnetic resonance spectroscopy on carbon-13 labeled uracil in transfer
ribonucleic acid

AU Hamiill, W. David, Jr.; Grant, David M.; Horton, W. James; Lundquist,
Ronald; Dickman, Sherman

CS Dep. Chem., Univ. Utah, Salt Lake City, UT, USA

SO Journal of the American Chemical Society (1976), 98(5), 1276-8

CODEN: JACSAT; ISSN: 0002-7863

DT Journal

LA English

L16 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2003 ACS

AB Carbon-13 NMR spectral studies of .beta.-pseudouridine
were compared with thymine, uracil, uridine, and
.beta.-cyanuric acid riboside and of showdomycin were compared with
maleimide and citraconimide.

AN 1973:453724 CAPLUS

DN 79:53724

TI Carbon-13 NMR spectra of C-nucleosides. Showdomycin and
.beta.-pseudouridine

AU Chenon, Marie T.; Pugmire, Ronald J.; Grant, David M.; Panzica, Raymond
P.; Townsend, Leroy B.

CS Dep. Chem., Univ. Utah, Salt Lake City, UT, USA

SO Journal of Heterocyclic Chemistry (1973), 10(3), 427-9

CODEN: JHTCAD; ISSN: 0022-152X

DT Journal

LA English

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17 ANSWER 44 OF 61 CAPLUS COPYRIGHT 2003 ACS

AB Chem. shift assignments are made for the C atoms of the **uracil**
-bisulfite adduct by specific labeling with D and C-13
. The signals of the analogous adducts from 5-chlorouracil and 5
-fluorouracil are assigned.

AN 1977:536255 CAPLUS

DN 87:136255

TI Carbon-13 chemical shift assignments for the bisulfite adducts of
uracil, 5-deuterouracil, **5-fluorouracil** and
5-chlorouracil

AU Triplett, J. W.; Digenis, G. A.; Layton, W. J.; Smith, S. L.

CS Coll. Pharm., Univ. Kentucky, Lexington, KY, USA

SO Spectroscopy Letters (1977), 10(3), 141-7

CODEN: SPLEBX; ISSN: 0038-7010

DT Journal

LA English

18 ANSWER 52 OF 53 CAPLUS COPYRIGHT 2003 ACS

AB First-order ^{13}C spectra have been obtained for uracil, thymine, and the 5-halouracils. The ^{13}C chem. shifts in these compds. are correlated reasonably well with π . and total electron charge ds. calcd. with extended-Hueckel theory. In addn., for the 5-halouracils the ^{13}C chem. shifts are correlated quite well with substituent electronegativity, EX. Substituent effects are discussed for the directly-bonded and long-range ^{13}C -H couplings, and correlations are obtained between these couplings and EX for the halogens. Without exception, 3-bond ^{13}C -H couplings are larger than the 2-bond couplings for this series of compds.

AN 1971:482221 CAPLUS

DN 75:82221

TI Carbon-13 nuclear magnetic resonance spectra of uracil, thymine, and the 5-halouracils

AU Goldstein, J. H.; Tarpley, A. R., Jr.

CS Chem. Dep., Emory Univ., Atlanta, GA, USA

SO Journal of the American Chemical Society (1971), 93(15), 3573-8

CODEN: JACSAT; ISSN: 0002-7863

DT Journal

LA English